

- Proactive Conservation Program -

Atlantic salmon
(*Salmo salar*)**Species of Concern Designation****Area of concern:**

Other populations outside the range of the listed Gulf of Maine Distinct Population Segment (DPS).

Year first designated as a species of concern: 2000

Vulnerable life-history characteristics:

- Anadromous species that requires free-flowing rivers with cool water.
- Sensitive to changes in water quality and temperature.
- Critically low returns make the species vulnerable to environmental fluctuations or catastrophes.

Application of SOC Criteria:

- Significant magnitude of decline due to overharvest, habitat degradation and loss, predation, and disease.
- By 1865, Atlantic salmon populations were extirpated in southern New England rivers; thereby, limiting the species' geographic range.
- Continued commercial fishing in Greenland poses an ongoing threat.
- Existing aquaculture practices pose ecological and genetic risks.

Rationale for designation:

The construction of dams in many river systems has had a significant adverse impact on Atlantic salmon by impeding upstream adult migrations, impeding downstream smolt migrations, increasing predation, impounding spawning and rearing habitat, altering water chemistry parameters, increasing water temperature, and altering flow regimes. Also, historically, this species was overfished both commercially and recreationally.

**Quick Facts:****Description and range:**

Anadromous Atlantic salmon in recent years have averaged approximately 57 cm for fish that spent one year at sea, 75 cm for fish that spent two years at sea, and 88 cm for fish that were at sea for three years. The Gulf of Maine DPS extends from the Kennebec River north to, but not including, the St. Croix River. Fish from eight rivers within the Gulf of Maine DPS have been listed as endangered. Other populations outside the range of this DPS were identified as Species of Concern.

Status:

- The Gulf of Maine populations represent the southernmost extent of the range of wild Atlantic salmon which historically extended to the Housatonic River in Connecticut;
- The species began to disappear from U.S. rivers 150 years ago and currently, only remnant populations occur in a limited number of rivers in Maine.

Domestic regulations:

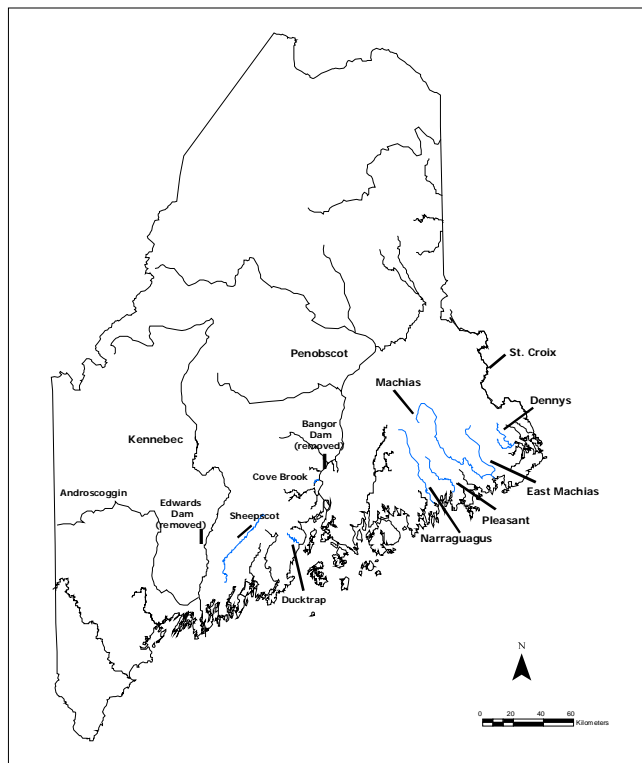
- In 2000, NOAA Fisheries and the U.S. Fish and Wildlife Service listed the Gulf of Maine DPS as endangered. At the time of listing, populations of Atlantic salmon were known to exist in 8 rivers within that range.

Threats:

- Overfishing; degradation, loss, or inaccessibility of historic habitat; and disease from hatchery reared fish.

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Gulf of Maine DPS of Atlantic Salmon



Quick Facts continued:

Other designations:

Both the U.S. DPS and the Canadian DPS are listed as endangered by the American Fisheries Society. The inner Bay of Fundy populations are listed as endangered under SARA. They were included as part of schedule 1 and therefore, a recovery strategy must be prepared by June 5, 2007.

Data deficiencies:

- More information is needed on the spatial and temporal migratory movements in freshwater and in the marine environment
- Information of the essential habitat necessary for adult spawning and juvenile rearing is needed
- It is important to determine what the genetically linked critical adaptive traits for successful salmon populations are in order to increase fitness and survival

Potential measures to reduce negative impacts:

- Liming/fertilization
- Predation management
- Alternative stocking strategies
 - analyze the effect of hatchery program on stocks
 - streamside river specific smolt stocking
 - cooperative program with industry to raise adults and smolts
- Habitat modifications/manipulation
 - create "optimal" habitat for parr to improve overwinter survival

*For more information regarding Atlantic salmon contact Rory Saunders at Rory.Saunders@noaa.gov or (207) 866-4049.